

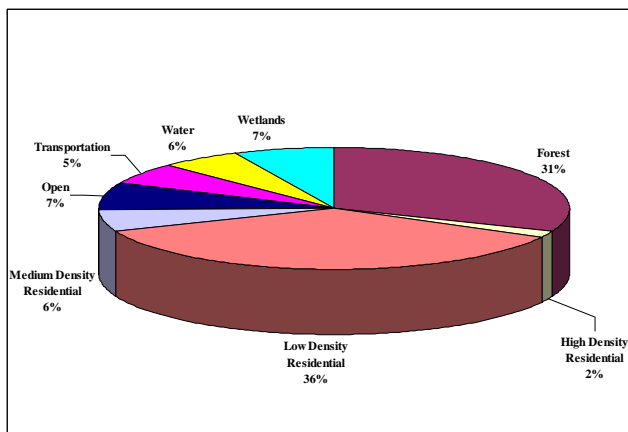
Methods

Surface water and sediment samples were collected to determine the health of Lake Weeks and met the requirements of the Florida Department of Environmental Protection (FDEP).

Nutrients

Lake Weeks is a small, 10 acre, tannic lake located in southeastern Leon County.

As shown in the following pie chart, approximately 49% of land use in the Lake Weeks 614 acre watershed is residential or transportation. Increases in stormwater runoff, and waterbody nutrient loads can often be attributed to these types of land uses.



Healthy, well-balanced lake communities may be maintained with some level of human activity, but excessive human disturbance may result in waterbody degradation. Human stressors may include increased inputs of nutrients, sediments, and/or other contaminants from watershed runoff, adverse hydrologic alterations, undesirable removal of habitat

The nutrient thresholds and results are found in Table 1. According to FDEP requirements, Numeric Nutrient Criteria (expressed as an annual geometric mean) cannot be exceeded more than once in a three year period. Due to an apparent erroneous reading, the total phosphorus result could not be calculated for 2013.

Table 1. FDEP's chlorophyll *a*, total nitrogen and phosphorus criteria for lakes applied to Lake Weeks. Results in bold signify exceedances of the State criteria.

Colored Lake	Chlorophyll- <i>a</i> 20.0 µg/L	Total Nitrogen Threshold 1.27-2.23 mg/L	Total Phosphorus Threshold 0.05-0.16 mg/L
2004	3.3	0.33	0.01
2005	1.7	0.42	0.01
2006	3.5	0.58	0.03
2007	4.9	1.00	0.02
2008	13.9	0.80	0.04
2009	2.6	0.32	0.01

Colored Lake	Chlorophyll- <i>a</i> 20.0 µg/L	Total Nitrogen Threshold 1.27-2.23 mg/L	Total Phosphorus Threshold 0.05-0.16 mg/L
2010	5.3	0.59	0.01
2011	14.2	0.79	0.03
2012	47.5	1.49	0.07
2013	19.7	0.87	-
2014	3.9	0.71	0.01

Low water levels in 2012, along with a relatively constant source of nutrients, substantially concentrated the nutrients in the lake, exceeding the numeric nutrient criteria in 2012. As the area returned to a more normal rainfall pattern, chlorophyll *a* and nutrient levels dropped to levels that met the state criteria for 2014.

Other Parameters

Biological oxygen demand levels (10 mg/L) were elevated during the September 2014 sampling event. The cause of the elevated level is unknown. Other water quality parameters appear to be normal for the area and no impairments were noted.

Conclusions

Based on ongoing sampling, Lake Weeks exceeded the nutrient thresholds in 2012 for the East Panhandle Region. Nutrient and chlorophyll *a* levels were substantially lower in 2013 and 2014 when compared to 2012. Biological oxygen demand levels were elevated during the September 2014 sampling event; the cause of which is unknown. Other water quality parameters appear to be normal for the area and no impairments were noted.

Thank you for your interest in maintaining the quality of Leon County's water resources. Please feel free to contact us if you have any questions.

Contact and resources for more information

www.LeonCountyFL.gov/WaterResources

[Click here to access the results for all water quality stations sampled in 2014.](#)

[Click here for map of watershed – Sample site LW1.](#)

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